



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,267	10/20/2004	Georg Kammler	016906-0343	6581

22428 7590 09/07/2006

FOLEY AND LARDNER LLP  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER
----------

HUSON, MONICA ANNE

ART UNIT	PAPER NUMBER
----------	--------------

1732

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/511,267

**Applicant(s)**

KAMMLER, GEORG

**Examiner**

Monica A. Huson

**Art Unit**

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This office action is in response to the Amendment filed 16 June 2006.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 15, 23, and 24 are rejected under 35 USC 103(a) as being unpatentable over Huff (U.S. Patent 5,246,065), in view of Hashimoto et al. (EP 1026198), further in view of applicant's admitted prior art. Regarding Claim 13, Huff shows that it is known to carry out a method for producing a heat exchanger header tank from plastic by means of injection molding (Abstract), comprising injection molding in an injection molding apparatus, at a first temperature to form a heat exchanger header tank, a plastic composition consisting essentially of nylon (Column 3, lines 3-5); removing the molded heat exchanger tank from the injection molding apparatus while the surface of the plastic material is at a second temperature that is below the first temperature and greater than a temperature at which injection molded nylon heat exchanger header tanks are normally removed from injection molding apparatus (Column 3, lines 42-46; It is noted that injection molded articles are not normally removed when they are soft; Huff's article is still soft and therefore at a greater temperature than normally-ejected articles.). Huff does not explicitly show using crystallization accelerating agent or a physical blowing agent. Hashimoto shows that it is known to carry out a method including injection molding a plastic that contains a crystallization accelerating agent (Para. 0015), and

Art Unit: 1732

during the injection molding step, adding to the plastic composition under pressure a physical blowing agent comprising a gaseous composition (Para. 0121). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hashimoto's crystallization accelerating agent and physical blowing agent in order to injection mold the desired composition that will result in an article having specified characteristics. Huff does not explicitly show inserting an auxiliary tensioning means. Applicant discloses that it is conventional to carry out a method characterized in that an auxiliary tensioning means is inserted immediately after the heat exchanger box has been removed from the injection mold (Page 1, lines 8-17). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use the conventional tensioning means after Hashimoto's molding process in order to maintain the desired configuration of the molded article while it is still cooling off.

Regarding Claim 15, Huff shows the process as claimed as discussed in the rejection of Claim 13 above, but he does not show glass fiber reinforcement. Hashimoto shows the process as claimed as discussed in the rejection of Claim 1 above, including a method characterized in that the plastic is reinforced with glass fibers (Para 0114). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hashimoto's glass fibers in Huff's process in order to provide more structural stability to the final article.

Regarding Claim 23, Huff shows the process as claimed as discussed above in the rejection of claim 13, but he does not show inserting an auxiliary tensioning means. In Applicant's background section (i.e. Admitted prior art), it is stated that it is known to retain the tensioning member in the heat exchanger header tank until it is assembled to the heat exchanger header member. Therefore, it is maintained that It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to

remove the tensioning member from the heat exchanger header tank and immediately thereafter assembling the header tank to a heat exchanger header member during Huff's molding process in order to prevent deformation of the molded article.

Regarding Claim 24, Huff shows the process as claimed as discussed above in the rejection of claim 13, but he does not discuss a time frame relative to insertion or removal of an auxiliary tensioning member. In Applicant's background section (i.e. Admitted prior art), it is stated that it is known to retain the tensioning member in the heat exchanger header tank until it is assembled to the heat exchanger header member. It is believed that It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to assemble the heat exchanger header tank to the heat exchanger header member within about one minute after removal of the tensioning member during Huff's molding process in order to prevent deformation of the molded article after the tensioning member is removed.

Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huff, Hashimoto, and the admitted prior art, further in view of Wilson, Jr. (U.S. Patent 5,047,440).

Regarding Claim 14, Huff shows the process as claimed as discussed in the rejection of Claim 13 above, but he does not show a specific chemical blowing agent. Wilson, Jr. show that it is known to carry out a method characterized in that CO<sub>2</sub> is generated as chemical blowing agent (Column 1, line 42; Column 2, lines 50-60). Wilson, Jr. and Huff are combinable because they are concerned with a similar technical field, namely, methods of molding polypropylene compositions. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wilson, Jr.'s blowing agent during Huff's molding process in order to promote an evenly-foamed article that satisfies end-use specifications.

Regarding Claim 20, Huff shows the process as claimed as discussed in the rejection of Claim 13 above, including a method wherein the plastic is mixed with a filler prior to injection molding (Para 0121, 0122). Huff does not show a specific chemical blowing agent. Wilson, Jr. shows that it is known to carry out a method characterized in that polyethylene-enrobed granules are admixed as chemical blowing agent with the plastic (Column 4, lines 63-68). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wilson, Jr.'s blowing agent during Huff's molding process in order to promote an evenly-foamed article that satisfies end-use specifications.

Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huff, Hashimoto, and the admitted prior art, further in view of Allen et al. (U.S. Patent 5,214,088).

Regarding Claim 16, Huff shows the process as claimed as discussed in the rejection of Claim 13 above, but he does not show a specific mold surface temperature. Allen et al., hereafter "Allen," show that it is known to carry out a method characterized in that the article is molded at a surface temperature of 120C (Column 13, lines 64-67; It is interpreted that the article is also removed at this temperature). Allen and Huff are combinable because they are concerned with a similar technical field, namely, methods of injection molding. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Allen's specific surface temperature during Huff's molding process in order to appropriately process the molding material.

Regarding Claim 17, Huff shows the process as claimed as discussed in the rejection of Claim 16 above, but he does not show a specific mold surface temperature. Allen show that it is known to carry out a method characterized in that the article is molded at a surface temperature of 120C (Column 13, lines 64-67; It is interpreted that the article is also removed at this

Art Unit: 1732

temperature). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Allen's specific surface temperature during Huff's molding process in order to appropriately process the molding material.

Claims 18 and 22 are rejected under 35 USC 103(a) as being unpatentable over Huff, Hashimoto, and admitted prior art, further in view of Fiorentini (U.S. Patent 5,578,655).

Regarding Claim 18, Huff shows the process as claimed as discussed above in the rejection of claim 13, but he does not show a specific pressure under which the blowing agent is fed. Fiorentini shows that it is known to carry out a method wherein the blowing agent is fed under a pressure of 50-250 bar (Column 5, lines 25-30). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Fiorentini's blowing agent feed pressure during Huff's molding process in order to most accurately distribute the blowing agent to the molding material.

Regarding Claim 22, Huff shows the process as claimed as discussed above in the rejection of claim 13, but he does not show a specific pressure under which the blowing agent is fed. Fiorentini shows that it is known to carry out a method wherein the blowing agent is fed under a pressure of 5-30 bar (Column 5, lines 25-30). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Fiorentini's blowing agent feed pressure during Huff's molding process in order to most accurately distribute the blowing agent to the molding material.

Claim 19 is rejected under 35 USC 103(a) as being unpatentable over Huff, Hashimoto, and admitted prior art, further in view of Sadr (U.S. Patent 5,297,948). Huff shows the process as claimed as discussed above in the rejection of claim 13, but he does not show supplying the blowing agent to a screw during injection molding. Sadr shows that it is known to carry out a

method wherein the blowing agent is supplied at a screw during injection molding (Column 3, lines 9-15). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to supply a blowing agent via a screw, as suggested by Sadr, during Huff's molding process in order to accurately distribute the blowing agent to the molding material.

Claim 21 is rejected under 35 USC 103(a) as being unpatentable over Huff, Hashimoto, and admitted prior art, further in view of Aida et al. (U.S. Patent 5,540,581). Huff shows the process as claimed as discussed above in the rejection of claim 13, but he does not show supplying the blowing agent directly to a mold during injection molding. Aida et al., hereafter "Aida," show that it is known to carry out a method wherein the blowing agent is supplied directly into a mold during injection molding (Summary of Invention). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to supply blowing agent directly into a mold, as suggested by Aida, during Huff's molding process in order to distribute the blowing agent into the molding material after it has been injected into the mold cavity.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the



advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 6:45am-3:15pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monica A Huson

September 5, 2006

  
**CHRISTINA JOHNSON**  
**PRIMARY EXAMINER**  
9/5/06